

AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A testing device for a vehicle system circuit, comprising:
 - a system tester;
 - load leads connectable at respective first ends to separated points of the vehicle system circuit and connectable at respective second ends to a first set of inputs to the tester;
 - sense leads connectable at respective first ends to the separated points of the vehicle system circuit and connectable at respective second ends to a second set of inputs to the tester;
 - a controller for measuring the impedance, conductance or admittance between the circuit points; and
 - display means for displaying in real time the impedance, conductance or admittance as ~~measured~~ measured;

wherein one of the separated points of the vehicle system circuit is a point other than a battery terminal.

2. (Previously Presented) A testing device as recited in claim 30, wherein a load circuit element is connected across the load leads, and the system tester further comprises an electrical source connectable to the load circuit element.

3. (Original) A testing device as recited in claim 2, wherein the electrical source is an alternating current source and the tester further comprises:
 - a current sense amplifier connected to the load leads;
 - a dc voltage amplifier and an ac amplifier connected to the sense leads, each of the amplifiers connected to a respective input channel of an analog to digital converter.

4. (Original) A testing device as recited in claim 3, wherein the analog to digital converter output is applied to the controller.

5. (Previously Presented) A testing device as recited in claim 30, wherein the system tester comprises:

means for calculating impedance values for a plurality of circuit points at which the load leads and sense leads may be connected; and

means for comparing the calculated impedance values with respective threshold values.

6. (Previously Presented) A testing device as recited in claim 30, wherein said load leads and sense leads provide Kelvin connections at points of the vehicle system circuit under test, and further comprising means for extending the length of the load lead and the sense lead connectable to a circuit point under test.

7. (Previously Presented) A testing device as recited in claim 30, further comprising a pair of conductors attached at a first end to a Kelvin clamp, the pair of conductors attached at a second end to respective terminals of a terminal block, the terminals being insulated from each other, wherein the terminal block is configured for mating to a Kelvin clamp of the system tester.

Claims 8-28 (Cancelled)

29. (Previously Presented) In a testing device including a system tester, load leads connectable at respective first ends to separated points of a vehicle system circuit and

connectable at respective second ends to a first set of inputs to the tester, sense leads connectable at respective first ends to the separated points of the vehicle system circuit and connectable at respective second ends to a second set of inputs to the tester, the leads being coupled to the points by Kelvin connections, the improvement comprising:

a pair of conductors attached at a first end to a Kelvin clamp, the pair of conductors attached at a second end to respective terminals of a terminal block, the terminals being insulated from each other, wherein the terminal block is configured for mating to a Kelvin clamp of the testing device.

30. (Previously Presented) The testing device of claim 1, wherein values of the impedance, conductance or admittance as measured at various circuit points are displayed continuously in real time.

31. (Previously Presented) The testing device of claim 30, wherein:
the controller calculates data related to the circuit points; and
the display means displays a parameter based on the related data calculated by the controller.

32. (Previously Presented) The testing device of claim 30, wherein
the controller calculates an available cranking current based on the impedance,
conductance or admittance; and
the display means displays the available cranking current.

33. (New) A testing device for a vehicle system circuit, comprising:

a system tester;

load leads connectable at respective first ends to separated points of the vehicle system circuit and connectable at respective second ends to a first set of inputs to the tester;

sense leads connectable at respective first ends to the separated points of the vehicle system circuit and connectable at respective second ends to a second set of inputs to the tester;

a controller configured to perform the steps of:

measuring the impedance, conductance or admittance between the circuit points;

setting the measured impedance, conductance or admittance between the circuit points as a reference value;

prompting a user to move one of the load leads and one of the sense leads from one of the circuit points to a new circuit point;

measuring the impedance, conductance or admittance between the circuit points including the new circuit point; and

generating a test result based on the reference value and the measured impedance, conductance or admittance between the circuit points including the new circuit point.